

Notice of Allowability

Application No.

10/753,602

Examiner

Rip A. Lee

Applicant(s)

CLIKEMAN ET AL.

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to May 5, 2006.
2. ☒ The allowed claim(s) is/are 2-12 and 18-20.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Allowable Subject Matter

The following is an examiner's statement of reasons for allowance: Claims 2-12 and 18-20 are allowed over the closest references cited below.

Claims 11 and 12 are drawn to a precision fragmentation assemblage comprising: (A) a plurality of fragmentation domains (comprises at least one first polymer), (B) one or more fragmentation zones comprising (i) one or more connecting phases (connecting phase comprising at least one second polymer which comprises 0.05-100 wt % of at least one multi-ethylenically unsaturated monomer present as polymerized units), (ii) optionally one or more pore phases, and (iii) optionally plural polymeric nanoparticles comprising at least one third polymer, and (C) one or more tether groups covalently bound to a polymeric chain selected from the group of said first polymer, said second polymer, said third polymer, and combinations thereof.

Keppler *et al.* (U.S. 3,956,218) discloses rubber particles comprising styrene-butadiene latex (fragmentation domain, first polymer) that has been agglomerated by a copolymer of 65 wt % of butadiene (multi-ethylenically unsaturated monomer present as polymerized units), 28 wt % of styrene, and 7 wt % of *N*-methylolmethacrylamide (connecting phase, second polymer) in the presence of said latex. The reference does not teach or fairly suggest use of one or more tether groups covalently bound to said first or second polymer. Therefore, one of ordinary skill in the art would not have found it obvious to modify the invention of Keppler *et al.* and thereby arrive at the subject matter of the instant claims.

Duijzings *et al.* (WO 02/10222 / U.S. 6,812,283) discloses rubber particles comprising butadiene latex (fragmentation domain, first polymer) that has been agglomerated by polymer prepared *via* free radical polymerization of styrene and acrylonitrile (connecting phase, second polymer) in the presence of said latex. In this case, the connecting phase does not comprises 0.05-100 wt % of at least one multi-ethylenically unsaturated monomer, and there are no tether groups covalently bound to said first or second polymer.

Claims 2-9 and 18-20 are drawn to a catalyst comprising: (A) a precision fragmentation assemblage and (B) at least one catalytic component wherein the precision fragmentation assemblage comprises (i) a plurality of fragmentation domains (comprises at least one first polymer), and (ii) one or more fragmentation zones comprising at least one connecting phase, said connecting phase comprising at least one second polymer which comprises 0.05-100 wt % of at least one multi-ethylenically unsaturated monomer present as polymerized units). Claim 10 is drawn to an olefin polymerization process comprising (A) contacting at least one olefin monomer with at least one precision fragmentation assemblage catalyst, (B) polymerizing said olefin monomer to produce polyolefin, and (C) isolating said polyolefin.

Yang *et al.* (U.S. 6,013,594) teaches a catalyst supported on polystyrene particles (fragmentation domain, first polymer) that are agglomerated with polyvinyl alcohol (connecting phase, second polymer). The catalyst is a transition metal complex and organoaluminum contact product, and it is used in a process for polymerization of olefins. There is no teaching or suggestion of a catalyst containing a fragmentation zone comprising a connecting phase that comprises at least one second polymer having at least one multi-ethylenically unsaturated monomer.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Art Unit: 1713

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rip A. Lee whose telephone number is (571)272-1104. The examiner can be reached on Monday through Friday from 9:00 AM - 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached at (571)272-1114. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <<http://pair-direct.uspto.gov>>. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

ral

May 30, 2006



DAVID W. WU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700